



## THE MANUFACTURING ENGINEERING CENTRE ( MEC )

### CARDIFF UNIVERSITY

The Manufacturing Engineering Centre at Cardiff University is a World class centre of excellence conducting research and development in Advanced Manufacturing . The MEC helps industry and science achieve engineering solutions which are often noted as "previously considered not possible" ( Quote from the American Association for the Advancement of Science )

MEC has achieved a number of world firsts in areas as diverse as creating ultra-thin foundry castings; developing a sub-ocean laboratory that operates at 800 atmospheres; creating the Moth Eye lens and also lenses that will detect far IR wavelengths of light from a distance of 10 Billion light years to record the events 10 billion years ago; With Utah university, creating a sensor that will teach the human brain to control prosthetic limbs ( success will be signalled when the subject plays the piano); and drilling the world's smallest hole. MEC has particular skills in rapid manufacturing and prototyping – working in scales down to 20 nanometres.

Customers including : Hewlett-Packard, IBM, Pratt & Whitney, Parametric Technology, Silicon Graphics, BAe, Mitutoyo, Siemens, Daimler and Zeiss – have supported research at the MEC. The MEC is currently managing 14 international research projects which involve military, civil and medical robotics, data mining, manufacturing panels for architectural, aerospace and automotive industries without the use of tooling - improving the performance of production lasers using disruptive techniques. Managing Networks of Excellence including 30 partners from 15 nations and 100 researchers.

Some of our most striking work sprang out of an innovative project studying honey bees - from this a series of algorithms have been developed to improve the efficiency of both machines and organisations.

We deliver innovation to designers and developers. They come to us with what they want to achieve – and the MEC makes it happen.

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